

1/2 013 UNCLASSIFIED PROCESSING DATE--04DEC70  
TITLE--RHEOLOGICAL PROPERTIES OF A RONGALITE MELT -U-

AUTHOR-(04)-BUDANOV, V.V., LYUSKEN, V.K., MAYDROVA, S.A., BOLESLAVSKAYA,  
N.F.

COUNTRY OF INFO--USSR

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SOURCE--IZV. VYSSH. UCHEB. ZAVED., KHM. KHM. TEKHNO., 1970, 13(2), 233-6

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--FORMALDEHYDE, SODIUM COMPOUND, THIXOTROPE, VISCOMETER, FLUID  
VISCOSEITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3005/0175

STEP NO--UR/0153/70/013/002/0233/0236

CIRC ACCESSION NO--A0132452

UNCLASSIFIED

2/2 013

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AT0132452

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. RHEOLOGICAL DATA AT 70-90DEGREES  
ARE GIVEN FOR RONGALITE MELTS CONTG. VARYING RATIOS OF NAHSO SUB2 .CH  
SUB2 O TO NAHSO SUB2 CH SUB2 O.2H SUB2 O AS DETD. IN A ROTATING CYLINDER  
VISCOMETER. HYSTERESIS LOOPS ARE OBSD. IN LOAD RAMP PLOTS AND ARE  
INTERPRETED AS INDICATING A THIXOTROPIC CHARACTER. THE LOG OF THE  
BINGHAM VISCOSITY AND THE YIELD VALUE OF THE MOLTEN PRODUCTS ARE  
LINEARLY DEPENDENT ON THE CONCN. OF NAHSO SUB2 .CH SUB2 O IN THE MELT.  
EMPIRICAL EQUATIONS ARE DEVELOPED FOR THIS RELATION, WHICH MAY BE USED  
IN A VISCOMETRIC METHOD FOR DETG. THE H SUB2 O CONTENT OF A MELT.

FACILITY: IVANOV. KHIM.-TEKHNOL. INST., IVANOVO, USSR.

UNCLASSIFIED

Pesticides

USSR

UDC 542.938:547.26'118

NIKONOROV, K. V., GURYLEV, E. A., BEL'SKIY, V. Ye., and MAYOROVA, T. A.,  
Institute of Organic and Physical Chemistry imeni A. Ye. Arbuzov Academy  
of Sciences USSR

"Kinetics and the Mechanism of Hydrolysis of Chlorophos and Some of Its  
Analogues"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 9, Sep 73, pp 1925-1929

Abstract: The kinetics of aqueous hydrolysis of chlorophos and some of its  
analogues were investigated. It was shown that the reaction occurs in two  
directions, each of which exhibits several stages. A diagram for the  
hydrolysis has been proposed. The overall constant of hydrolysis and the  
constants of the reaction rates in both directions have been evaluated. It  
has been shown that changes in the molecular structure had a definite ef-  
fect on the rate and the direction of the hydrolysis.

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USSR

UDC 632.95

VENGERSKAYA, KH. YA., DEMIDENKO, I. N., and MAYOROVA, T. N.

"Determination of Small Quantities of Paraquat, Diquat and Dipyridyl Phosphate  
in the Air"

Tr. 2-go Vses. soveshch. po issled. estatkov pesticidov i profilakt.  
zagryazneniya imi produktov pitaniya, kromov i vash, sredy (Works of the  
Second All-Union Conference on Investigation of Residues of Pesticides, and  
Prevention of Pesticide Contamination of Foodstuffs, Fodder and the External  
Environment), Tallinn, 1971, pp 267-268 (from RZh-Khimiya, No 11, Jun 72,  
Abstract No 11N455)

Translation: In order to determine paraquat and dipyridyl phosphate by the colorimetric method, Neissler's reagent is added to an acid solution of the specimen, and the intensity of the resultant dye is determined. The sensitivity of the reaction is 10<sup>-7</sup> in 1 ml of solution. Diquat forms dye complexes in an alkaline medium. The ultraviolet absorption spectra of these herbicides were studied.

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USSR

UDC 614.72:[632.964:631.542.25]

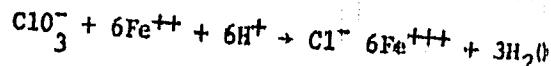
VENGERSKAYA, Kh. Ya., DEMIDENKO, N. M., MAYOROVA, T. V., and IZMAYLOVA,  
G. D., Tashkent Scientific-Research Institute, Tashkent Medical Institute

"Methods of Determination of Some Defoliants in Air"

Moscow, Gigiyena i Sanitariya, "Meditisina," Vol 36, No 8, Aug 71, pp 109-110

**Abstract:** Colorimetric and spectrophotometric analytical methods were used to detect the presence in the air of the cotton defoliants magnesium chlorate-chloride (I) --  $Mg(ClO_3)_2 \cdot MgCl_2$ , -- molecular weight 191.23, a greenish mass, readily soluble in water; calcium chlorate-chloride (II) --  $Ca(ClO_3)_2 \cdot CaCl_2$  -- a yellow liquid readily mixible with water; and acrofol (III) - the sodium salt of cis-beta-chloroacrylic acid.

A preparation in the form of a yellow powder, readily soluble in water, but poorly in organic solvents. The colorimetric determination of (I) and (II) is based on the capacity of their chlorates when boiled in an acid medium to be reduced by the ferrous ion to chlorides as follows:



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USSR

VENGERSKAYA, Kh. Ya., Gigiyena i Sanitariya, "Meditina," Vol 36, No 8,  
Aug 71, pp 109-110

The detection of (III) is based on the formation of a colored complex as a result of the reaction of the preparation with pyridine in an alkaline medium. The spectrophotometric method of detection is accomplished with the use of a spectrophotometer and an absorbent of degreased cotton and chlorinated polyvinyl chloride filters for aerosols of (I) and (II), and an absorbent filled with distilled pyridine for the vapors of (III).

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"APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R002202010011-2

TITLE--<sup>U</sup>VARIANTS OF THE COURSE OF MYOCARDIAL INFARCTION -U- UNCLASSIFIED PROCESSING DATE--16OCT70

AUTHOR--(02)-VOROBYEV, B.I., MAYOROVA, T.YE.

COUNTRY OF INFO--USSR

SOURCE--TERAPEVTICHESKIY ARKHIK, 1970, VOL 42, NR 4, PP 72-73

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--HEART DISEASE, STATISTIC ANALYSIS, DIAGNOSTIC MEDICINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1990/0559

CIRC ACCESSION NO--AP0108774

UNCLASSIFIED

STEP NO--UR/C504/70/042/004/0072/0073

APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R002202010011-2"

2/2 017

CIRC ACCESSION NO--AP0108774

UNCLASSIFIED

PROCESSING DATE--16OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A CLINICO STATISTICAL ANALYSIS OF THE PECULIARITIES OF THE COURSE OF MYOCARDIAL INFARCTION IN 300 PATIENTS WAS MADE. THE COURSE OF MYOCARDIAL INFARCTION, COMPLICATIONS AND PROGNOSIS DEPEND UPON THE VARIANTS OF THE DISEASE. THE AUTHORS MAKE AN ATTEMPT TO SYSTEMATIZE VARIOUS CLINICAL MANIFESTATIONS OF THE COURSE OF THE DISEASE AND COMPLICATIONS ON THE BASIS OF THIS ANALYSIS. IT IS EMPHASIZED IN THE ARTICLE THAT AT PRESENT NO CORRECT TACTICS AND PROGNOSIS IN MYOCARDIAL INFARCTION CAN BE MADE WITHOUT THE DETERMINATION OF THE VARIANTS OF THE COURSE OF THIS DISEASE. . . . . FACILITY: KAFEDRA FAKUL'TETSKOY TERAPII ROSTOVSKOGO NA DONU MEDITSINSK. INSTITUTA.

UNCLASSIFIED

USSR

BORODIN, V. V., KOZOKINA, S. M., KONOVALOVA, V. V., MAYOROVA, V. A.  
"Algorithm for Lexicographic Processing of Texts"

Izbr. Tr. Vses. Mezhvuz. Simpoz po Prikl. Mat. i Kibernet., Gor'kiy, 1967  
[Selected Works of All-Union Interuniversity Symposium on Applied Mathematics and Cybernetics, Gor'kiy, 1967], Moscow, Nauka Press, 1973, pp 359-365 (Translated from Referativnyy Zhurnal Kibernetika, No 6, 1973, Abstract No 6V770, by the authors).

Translation: Problems of organization of a machine dictionary capable of performing a broad range of linguistic tasks is studied. It is suggested that the dictionary be based on list structures using the apparatus of grammars with a finite number of states. It is considered that the most acceptable form of operation with an automatic dictionary is the method of standard programs. With this purpose in mind, a set of operators is given for writing the program. The most typical tasks of lexicographic analysis performed by computers are formulated in terms of the operators.

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USSR

UDC 681.3.06.51

BORODIN, V. V., MAYOROVA, V. A., SHUL'TS, M. M.

"General Structure of "Kompas" Series Information Retrieval Systems"

Nauchno-teckn. Inform. Sb. Vses. In-t. Nauchn. i Tekhn. Inform. [Scientific-  
Technical Information. Collection of All-Union Institute for Scientific and  
Technical Information), Series 2, No. 9, 1970, pp 25-31 (Translated from  
Referativnyy Zhurnal Kibernetika, No. 4, April, 1971, Abstract No. 4 V647 by  
the authors).

This article is the first of a series of articles dedicated to descriptor information retrieval systems with positional coding. The article studies problems of the general structure of an information retrieval system in the "KOMPAS" series, developed at the scientific research institute for applied mathematics and cybernetics (NIIPMK). The general structure refers to the formal model and language of representations. The formal model of the information retrieval system based on the language of the theory of multiply coupled mappings is presented in detail. A representation of IRS by computers based on the operative method of programming and the method of construction of concrete IRS of the "KOMPAS" series are presented.

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USSR

MAYOROVA, V. I.

UDC: 518.5:681.3.06

"Programs for Calculations in a System of Continuous Operative-Production Planning on the 'Ural-2' Computer"

V sb. Vychisl. metody i programmir. (Computer Methods and Programming-- collection of works), vyp. 4, Saratov, Saratov University, 1970, pp 62-93 (from RZh-Kibernetika, No 11, Nov 71, Abstract No 11V850)

Translation: The paper describes the following programs: 1) a program for determining the quota of an enterprise by piecework; 2) a program for recording piecework data in a magnetic tape storage unit; 3) a program for selecting information for each subdivision from the piecework plan of the enterprise; 4) a program for introducing a conditional number of parts, daily complement numbers into the piecework data for the shop, and for determining the original daily complement number of a part with respect to incompletely produced; 5) programs for processing data on parts made (rejected) by the shop in preceding days; 6) a program for correcting piece-work information; 7) auxiliary programs. V. Mikheyev.

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USSR

UDC 546.791.6'21'131-386

FOMIN, V. V., LIPIS, L. V., AVERBAKH, L. I., MAYOROVA, Ye. P., and LEMAN, G. A.

"Uranyl Chloride Solvation With Tributylphosphate"

Moscow, Zhurnal Neorganicheskoy Khimii, Vol 16, No 3, Mar 71, pp 772-775

**Abstract:** A study of the system  $\text{UO}_2\text{Cl}_2$ -tributylphosphate (TBP) was carried out, concentrating on the effect of the solvent. The system was studied by the cryoscopical method, the distribution method, and spectrometrically. Extraction of  $\text{UO}_2\text{Cl}_2$  with the mixture of TBP and  $\text{CCl}_4$  + dichloroethane or heptane gave a pure compound  $\text{UO}_2\text{Cl}_2 \cdot 2\text{TBP}$ , supporting the contention that solvates form under conditions studied. The spectrum of  $\text{UO}_2\text{Cl}_2 \cdot 2\text{TBP}$  depended strongly on the solvent used in spectral analysis, but there were no indications that solvates other than the disolvate were formed. Cryoscopical determinations showed that only the solvates exist in the system  $\text{UO}_2\text{Cl}_2 \cdot 2\text{TBP-TBP}$ .

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UDC 621.165(088.8)

MAYORSKIY, YE. V., NOYMAN, K.

"An Axial Multi-Tier Stage of a Turbine"

USSR Author's Certificate No 232986, filed 24 May 67, filed 17 Apr 69  
(from RZh-Teploenergetika, Svodnyy Tom, No 1, 1970, Abstract No 1S25P)

Translation: To improve the efficiency of a multi-tier stage of a turbine, it is concluded that the design of the profile of the guide vanes and working blades be carried out by suggested specific rules. This will make it possible to obtain the optimum degree of reactivity for each tier. The pressure gradient between the tier, caused by such profiling, is borne by the annular partitions located in guide vanes and working blades, and the packings in the inter-rim clearance. Rzheznikov, Yu. V.

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*MAY PARKER, G. T.*

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2) equations for the temperature and the oscillatory energy. The first system of equations is solved by the Euler method. In the second system the free wave is dependent on the desired values, and the nonlinear difference equations obtained are solved by the Newton method. The method contains two iteration processes. First of the magnitudes  $R_2$ ,  $R_2'$ , and  $\Delta R$  ( $= \Delta R$ ) around a sphere and ellipsoids is calculated for various initial conditions.

Maykopov, G. I. Calculation the resistance of a body on the basis of the shape of the bow shock wave. IN: Uchenye zapiski Tsentr. fiz.-mekhanicheskogo in-ta, v. 2, no. 6, 1971, 23-31. (R. Zhurnal, 5/72, no. 50344)

Using theorems of the conservation of mass and momentum, an analysis of the order of the magnitudes and the numerical results confirmed the validity of a formula for computing the wave resistance of a semi-infinite cylindrical body based on the shape of the bow shock wave. The formula may be used for determining the resistance of the leading sections of axisymmetric and cylindrical bodies on the basis of flow shadow photography.

"APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R002202010011-2

TITLE--OPTICALLY ACTIVE 1,P,NITROPHENYL,2,AMINO,1,3,PROPANEDIOL -UNCLASSIFIED  
PROCESSING DATE--13NOV70

AUTHOR-(04)-MAYRANOVSKIY, S.G., GANGRSKIY, P.A., TURYANSKAYA, YE.G.,  
LISHCHETA, I.I.  
COUNTRY OF INFO--USSR

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SOURCE--U.S.S.R. 264,382  
REFERENCE--OTKRYTIYA, IZOBRET., PROV. OBRAZTSY, TOVARNYE ZNAKI 1970,  
DATE PUBLISHED--03MAR70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--DRUG PRODUCTION, OPTIC ACTIVITY, PATENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/1352

CIRC ACCESSION NO--AA0128759

STEP NO--UR/0482/70/00/000/000/000

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R002202010011-2"

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CIRC ACCESSION NO--AA0128759

UNCLASSIFIED

PROCESSING DATE--13NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TITLE COMPO. IS PREP'D. BY  
REDUCING P,NITRO,ALPHA,ACETAMIDO,BETA, HYDROXYPROPIOPHENONE WITH  
ISO,PROH IN AN ACID MEDIUM IN THE PRESENCE OF ALCOHOL, ISO) SUB3,ALCL  
SUB3,CCL SUB4. FACILITY: KHIMIKO-PARMATSEVITICHESKIY ZAVOD,  
AKRIKHIN.

UNCLASSIFIED

1/2 025

UNCLASSIFIED

PROCESSING DATE--30OCT70

TITLE--EFFECT OF THE NATURE OF INDIFFERENT ELECTROLYTE ANIONS DURING THE  
CATALYTIC LIBERATION OF HYDROGEN AT THE MERCURY ELECTRODE -U-

AUTHOR--(03)-MAYRANOVSKIY, S.G., GULTYAY, V.P., LISITSINA, N.K.

COUNTRY OF INFO--USSR

SOURCE--ELEKTROKHIMIYA 1970, 6(4), 541-7

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--METAL ELECTRODE, ELECTROLYTE, HYDROGEN, SULFATE, ADSORPTION,  
NITRATE, SULFATE, BROMIDE, CHLORIDE, POLAROGRAPHIC ANALYSIS, QUININE,  
POTASSIUM CHLORIDE, POTASSIUM BROMIDE, POTASSIUM NITRATE, POTASSIUM  
IODIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1998/1126

STEP NO--UR7036470/006/004/0541/0547

CIRC ACCESSION NO--AP0121685

UNCLASSIFIED

272 025

CIRC ACCESSION NO--AP0121685

UNCLASSIFIED

PROCESSING DATE--30OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECT OF THE ANION (FROM K SUB2 SO SUB4, KNO SUB3, KI, KBR, OR KCL) ON THE CATALYTIC POLAROGRAPHIC WAVE OF H, PRODUCED BY 3 TIMES 10 PRIME NEGATIVE 5 M QUININE IN 0.05 N H SUB2 SO SUB4 SOLN., WAS STUDIED AT 25DEGREES. THE LIMITING CURRENT INCREASED AND THE E SUBONE HALF SHIFTED TO MORE NEG. POTENTIALS WITH INCREASING CONCN. OF THE SALT AND THE INDICATED EFFECT INCREASED IN THE ORDER CLNEGATIVE LESS THAN BRNEGATIVE LESS THAN INEGATIVE LESS THAN NO SUB3NEGATIVE LESS THAN SO SUB4 PRIME2NEGATIVE. THESE CHANGES WERE PRIMARILY DUE TO THE CHANGE IN THE ACID BASE PROPERTIES (PK SUBA) OF QUININE AND SECONDARILY TO THE CHANGE IN THE ADSORPTION OF QUININE AT THE HG ELECTRODE. (THE ADSORPTION OF QUININE DECREASED IN THE SEQUENCE NO SUB3NEGATIVE GREATER THAN OR EQUAL TO SO SUB4 PRIME2NEGATIVE GREATER THAN CLNEGATIVE GREATER THAN BRNEGATIVE).  
KHIM. IM. ZELINSKOGO, MOSCOW, USSR.

FACILITY: INST. ORG.

UNCLASSIFIED

1/2 CO8 UNCLASSIFIED PROCESSING DATE--02OCT70  
TITLE--EFFECT OF DOUBLE LAYER STRUCTURE ON ELECTRODE PROCESSES LIMITED BY  
THE RATE OF THE PRECEDING PROTONATION IN AMMONIA BUFFER SOLUTIONS -U-  
AUTHOR-(02)-MAYRANOVSKIY, S.G., BAYSHEVA, R.G.

M

COUNTRY OF INFO--USSR

SOURCE--ELEKTROKHIMIYA 1970, 6(2) 226-8

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--PROTON, ELECTRODE REACTION, AMMONIUM COMPOUND, CATION,  
PYRIDINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1989/0460

STEP NU--UR/0364/70/006/002/0226/0228

CIRC ACCESSION NO--APO107066

UNCLASSIFIED

2/2 008

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--APO107066

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AMMONIUM CATIONS MAY BEHAVE AS PROTON DONORS. THE EFFECT OF THE CONCN. OF THE INDIFFERENT ELECTROLYTE, SUCH AS KCL AND CACL SUB2, ON THE H CATALYTIC WAVES, CAUSED BY PYRIDINE IN THE AMMONIA BUFFER SOLN., WAS STUDIED. THE HEIGHT OF THESE WAVES WAS DETERMINED MAINLY BY THE RATE OF TRANSFER OF THE PROTONS FROM AMMONIUM TO THE PYRIDINE MOL. THE PRESENCE OF THE ABOVE SALTS CAUSED AT CONST. PH A SHARP INCREASE IN THE HEIGHT OF THESE WAVES, WHICH AT SUFFICIENTLY HIGH CONCNS. OF THE ADDED SALTS TRENDED TO THE SAME LIMIT. THE POSSIBILITY OF DETG. THE TRUE RATE CONST. OF THE AMMONIUM PROTONATION OF PYRIDINE, UNAFFECTED BY THE DOUBLE LAYER STRUCTURE, WAS STUDIED ON THE BASIS OF THE H CATALYTIC POLAROGRAPHIC CURRENTS. THIS RATE CONST., AT PH EQUALS 9.2, CONSIDERABLY DECREASED WITH THE INCREASE OF KCL CONCN.

UNCLASSIFIED

1/2 008 UNCLASSIFIED PROCESSING DATE--23 OCT 70  
TITLE--REVERSIBLE ELECTROCHEMICAL REDUCTION OF BETA CAROTENE AND RELATED  
COMPOUNDS -U-

AUTHOR--(03)-MAYRONOVSKIY, V.G., YENGOVATOV, A.A., SAMOKHVALOV, G.I.

COUNTRY OF INFO--USSR

SOURCE--ZH. ORG. KHM. 1970, 6(3), 632-3

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--BIOLOGIC PIGMENT, UNSATURATED HYDROCARBON, ELECTROLYTIC  
REDUCTION, ELECTRODE POTENTIAL, PHOTOSYNTHESIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1997/2029

STEP NO--UR/0366/70/006/003/0632/0633

CIRC ACCESSION NO--APO120472

UNCLASSIFIED

2/2 008

UNCLASSIFIED

PROCESSING DATE--23OCT7

CIRC ACCESSION NO--AP0120672

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN A SUPPORTING ELECTROLYTE OF 0.027 M ET SUB4 NI SOLN. IN 2:1 HCONME SUB2-C SUB5 H SUB6, B CAROTENE, 15,15 PRIME CIS-BETA-CAROTENE, AND 15,15 PRIME DEHYDRO-BETA-CAROTENE HAVE HALF WAVE POTENTIALS OF MINUS 1.2179, MINUS 1.2147, AND MINUS 1.2323 V (VS. THE ELECTRODE AG(ET SUB4 NI (SATO.)), HCONME SUB2 MAGNITUD OF) RESP., CORRESPONDING TO REVERSIBLE ELECTRON TRANSFER AND THE FORMATION OF IONS. THE ABILITY OF THESE CAROTENES TO ADD ELECTRONS REVERSIBLY IS RELATED TO THE HYPOTHESIS OF THEIR PARTICPATION IN PHOTOSYNTHESIS (J. PLATT, 1955). FACILITY: VSES, NAUCH.-ISSLED VITAM, INST., MOSCOW, USSR.

RIGHT ACCEPTED

1/2 011

UNCLASSIFIED

PROCESSING DATE--09OCT70

TITLE--POLAROGRAPHY OF CONJUGATED SYSTEMS IN DIMETHYL FORMAMIDE. VI. HALF  
WAVE POTENTIALS OF LINEAR CONJUGATED POLYENE HYDROCARBONS. EXAMINATION  
AUTHOR--MAYRANOVSKIY, V.G.

COUNTRY OF INFO--USSR

SOURCE--ZH. OБSHCH. KHM. 1970, 40(2), 278-85

DATE PUBLISHED----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--POLAROGRAPHY, CONJUGATE BOND SYSTEM, FORMIC ACID, AMIDE,  
MOLECULAR ORBITAL, CALCULATION, POLYENE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1992/1974

STEP NO--UR/0079/70/040/002/0278/0285

CIRC ACCESSION NO--AP0112938

UNCLASSIFIED

2/2 011

UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0112938

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. HALF WAVE POTENTIAL DATA WERE TABULATED FOR 16 CONJUGATED POLYENES CONTG. FROM 4 TO 22 DOUBLE BOND ELECTRONS. A LINEAR RELATION WAS FOUND BETWEEN THE HALF WAVE POTENTIAL AND THE COEFFS. OF BINDING ENERGY OF THE LOWEST VACANT MO CALCD. VIA THE HUECKEL APPROXN. OF THE LCAO METHOD. THESE ENERGIES CAN BE CALCD. RATHER ACCURATELY BY THIS METHOD WITH THE USE OF THE HUECKEL EQUATION FOR UNSUBSTITUTED POLYENE AND ALLOWANCE FOR THE INDUCTIVE EFFECT OF ALKYL GROUPS THROUGH THE PERTURBATION THEORY. THIS AVOIDS THE NEED TO USE CUMBERSOME MATRIX ALGEBRA AND ALLOWS FOR DIRECT PREDICTION OF HALF WAVE POTENTIALS. THE SLOPE OF THE PLOT OF THE HALF WAVE POTENTIAL VS. THE BINDING ENERGY COEFF. IN CONJUGATED POLYENES IS INFLUENCED BY THE PROTONIC NATURE OF THE MEDIUM USED FOR THE REDN.; THIS IS CAUSED BY DECREASE OF THE DIFFUSION COEFF. WITH INCREASING CHAIN LENGTH OF THE POLYENE.

FACILITY: VSES. NAUCH.-ISSLED. VITAM. INST., MOSCOW,

USSR.

UNCLASSIFIED

1/2 006

UNCLASSIFIED

PROCESSING DATE--18SEP70

TITLE--CONDENSATION OF ALUMINUM ACETYLACETONATOBIIS (ETHYL ACETOACETATE)  
WITH PENTAERYTHRITOL TETAACETATE -U-

AUTHOR--(02)-VEVERE, I., MAYS,

COUNTRY OF INFO--USSR



SOURCE--LATV. PSR ZINAT. AKAD. VESTIS, KIM. SER. 1970, (1), 120-1  
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ORGANIC COMPLEX COMPOUND, ORGANORAUMINUM COMPOUND,  
CRYSTALLIZATION, CONDENSATION REACTION, ACETATE, PENTAERYTHRITOL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1987/1082

STEP NO--UR/0464/70/000/001/0120/0121

CIRC ACCESSION NO--AP0104480

UNCLASSIFIED

2/2 006

UNCLASSIFIED

PROCESSING DATE--16 SEP 70

CIRC ACCESSION NO--AP0104480

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BY CONDENSATION OF XX SUB2 PRIME AL (I) (WHERE X IS THE ENOLATE ANION OF ACETYLACETONE AND X PRIME THAT OF ET ACETOACETATE) WITH PENTAERYTHRITOL TETRAACETATE (III) IN H-XYLENE, XALIOCH SUB2 C(CH SUB2 OAC) SUB3) SUB2 AND XX PRIME AL(CH SUB2 C(CH SUB2 OAC) SUB2 CH SUB2 OALXX) WERE OBTAINED WITH 1:2 AND 2:1 MOLAR RATIOS I-II, RESP. THE PRODUCTS WERE RESINOUS, BUT CRYSTD. ON STANDING, AND HAD MOL. WTS. SIMILAR TO 0.5 OF THEORETICAL VALUES; (OETD. CRYOSCOPICALLY IN BENZENE). THE PRODUCTS ARE CYCLIC CHELATES OF THE TYPE DISCUSSED BY VEVERE AND MAIJS (CA 69: 18553S.).

UNCLASSIFIED

USSR

MAYGARIN, B. ZH., MAYSAKANOV, S. ZH.

"The Problem of the Absolute Stability of Third-Order Automatic Control Systems"

Matematika i Mekhanika. Tzisy Dokl 4-y Kazakhstan. Mezhevuz. Nauch. Konf. Po Mat. i Mekh. Ch. 2. [Mathematics and Mechanics, Theses of Reports of 4th Kazakhstan Inter-University Scientific Conference on Mathematics and Mechanics. Part II -- Collection of Works], Alma-Ata, 1971, pp 4-5. (Translated from Referativnyy Zhurnal Mekhanika, No 1, 1972, Abstract No 1A170).

Translation: The absolute stability of a system such as

$$\begin{aligned} \frac{d\eta_k}{dt} &= \sum_{\alpha=1}^2 a_{k\alpha} \eta_\alpha + b_k \xi + m_k f(\sigma) \quad (k = 1, 2) \\ \frac{d\xi}{dt} &= f(\sigma), \quad \sigma = \sum_{\alpha=1}^2 c_\alpha \eta_\alpha - r \xi \end{aligned} \tag{1}$$

is studied. The necessary and sufficient conditions for absolute stability of system (1), are produced, when the object of control is stable or neutral with respect to one of the coordinates  $\eta_1$ ,  $\eta_2$ .

1/1

MAYSEL', Ye. B.

INTERACTION OF HYDROPHOBIC ORGANOPHOSPHOROUS INHIBITORS AND SERUM CHOLINESTERASE IN THE PRESENCE OF ALIPHATIC ALCOHOLS AT DIFFERENT PH

[Article by A. Z. Blestkin, Ye. B. Maysel', and V. V. Isomzart, Institute of Evolutionary Physiology and Biochemistry, Lenin I. M. Sechenov, USSR Academy of Sciences, Leningrad; Moscow, Biokhimika, Russian, Vol 36, No 6, 1971, pp 1229-1232]

A study was made on the effect of 0.54 M isopropyl, n-butyl, and isobutyl alcohols on the ability of organophosphorous inhibitors (OPI) of the LG series,  $C_2H_5O(CH_2)_nPO(OCH_3)_2$  ( $n = 2, 4, 5$ , and 6) and the Ga series,  $(CH_3)_2N+(CH_2)_nPO(OCH_3)_2$ , to inhibit cholinesterase at different pH (5.0, 5.0, 7.5, 8.5, and 9.5). The pH dependence of OPI effectiveness is a bell-shaped curve with an indistinct maximum in the pH range of 7.5 to 9. It was demonstrated that for all the pH studied, these alcohols had the same effect on the structure of the hydrophobic sections in the region of the anionic and esteratic centers of the active surface of cholinesterase extracted from horse blood serum.

Earlier [1-4] we studied the effect of aliphatic alcohol on the anticholinesterasic effectiveness of several hydrophobic organophosphorous inhibitors (OPI). An investigation of both OPI series [5] (LG series and Ga series) enabled us to evaluate the effect of these alcohols on the structure of the hydrophobic sections situated in the anionic and esteratic region of the cholinesterase (CE) active surface of horse blood serum (RF 3.1.1.8) [4].

JPRS 55330  
2 March 1972

USSR

M

UCC 616.12-003.43-002.9.w.

MEMAROV, T. G., VASIL'YEV, M. YA., MARKOVSKAYA, G. I., SOKOLOVA,  
L. O., and NOVINSKIY, N. A., Laboratory of Experimental Kardiologiya,  
Institute of Normal and Pathological Physiology, Academy of Medical  
Sciences USSR

"Experimental Prophylaxis of Acute Cardiac Insufficiency by Pre-  
liminary Conditioning of Animals to High-Altitude Hypoxia"

Moscow, Patologicheskaya Fisiologiya i Ekspериментальная Кардиология,  
No 2, 1970, pp 49-54

**Abstract:** A series of forty days of conditioning of dogs at 4000 m.  
hypoxia (6 hours daily at a simulated altitude of 7000 m.) increased  
the synthesis of nucleic acids and proteins in the myocardium  
of the left and right ventricles (especially the latter), and also  
increased the maximum force of ventricular contractions. Chronic  
insufficiency induced by coarctation of the aorta resulted in marked  
edema of the subcutaneous fatty tissue of the neck and sides in  
untrained rats, but did not have this effect in trained animals.  
Cardiac insufficiency also produced metabolic disturbances and  
decreased oxygen utilization in untrained animals. In the  
2/2

USER

MOYERSON, F. M., et al., Moscow, Pathologicheskaya Anatomicheskaya i Experimentальная Biologiya Tsvetnye, No. 2, 1976, pp. 34-36.

Unfixed animals, however, showed changes were normal, except for changes in a mild form. The reasons for the high degree of sensitivity to acute cardiac insufficiency created by preindustrial conditions due to hypoxia are discussed.

2/2

Acc. Nr:

*M.*  
**AP0036569-**

Ref. Code: UR 0301

PRIMARY SOURCE: Voprosy Meditsinskoy Khimii, 1970, Vol 16,  
Nr 1, pp 22 - 77

PATHWAYS OF EXOGENOUS ADENINE TRANSFORMATIONS INTO NUCLEIC  
ACID GUANINE IN PLAGUE GERM

Mayskiy, V. G.; Suchkov, Yu. G.

Research Anti-Plague Institute of Caucasus and Regions beyond Caucasus, Stavropol;  
Research Anti-Plague Institute, Rostov-on-Don

From two possible ways of exogenous adenine transformations into nucleic acid guanine in *Pasteurella pestis* the way via hypoxanthine and IMP is blocked on "adenine-hypoxanthine" route and the way via AMP, AICAR and IMP is realized in the conditions of histidine insufficiency. In *P. pestis* hyst<sup>-</sup> mutant both pathways were blocked. Inability of bacteria to the conversion of adenine to hypoxanthine, i. e. insufficiency on adeninedeaminase is the characteristic feature of plague germ and that differs it from the taxonomically similar *P. pseudotuberculosis*.

*D. M.*

*6*

REEL/FRAME  
19724/621

USSR

UDC 576.891.45.098.396.332

*M*  
MAYSKIV, V. G. and SUCHKOV, YU. G., Scientific Research Antiplague Institute of the Caucasus and Transcaucasus, Stavropol', and Scientific Research Antiplague Institute, Rostov-na-Donu

"Path Ways of Conversion of Exogenous Adenine into Guanine in Nucleic Acids of Pasteurella pestis"

Moscow, Voprosy Meditsinskoy Khimii, Vol 16, No 1, 1970, pp 72-77

Abstract: It was found in earlier work that *P. pestis* under certain conditions is incapable of converting exogenous adenine into nucleic acid guanine. This conversion was studied further on the vaccinal strain *P. pestis* EV, a prototrophic mutant derived from it, and a histidine-dependent strain *P. pestis hist*, using  $^{32}\text{P}$ -adenine. The results obtained indicated that the conversion of adenine by way of hypoxanthine and IMP is blocked in *P. pestis* at the step adenine  $\rightarrow$  hypoxanthine. Another pathway of conversion is possible, i.e., by means of AMP-pyrophosphory-lase to ATP, 5-amino-4-imidazole carbokamide ribotide (AICAR), and IMP, unless histidine is present in the nutrient medium. In the case of *P. pestis hist*, this pathway is also blocked. Inability to convert adenine into hypoxanthine because of  
1/2

USSR

MAYSKIY, V. G., et al., Moscow, Voprosy Meditsinskoy Khimii, Vol 16,  
No 1, 1970, pp 72-77

an insufficiency of adenine deaminase is a species characteristic of *P. pestis*, which distinguishes it from many other species of microorganisms, including *P. pseudotuberculosis* (which is similar taxonomically and resembles *P. pestis* in many other respects).

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USSR

MAYSTRAKH, Ye. V., Doctor of Medical Sciences

Priostanovlennaya Zhizn' (The Suspended Life), Moscow, "Znaniye," 1971, 48 pp

Translation: Annotation: Modern ideas, factual data, and theoretical conceptions on the problem of cold anabiosis in higher animals and humans are presented.

Aspects of temperature regulation during the effect of low temperatures on the organism, the mechanism for reducing sensitivity to pathogenic agents, and factors which determine suppression of vitality in the animal body during the process of hypothermia are discussed from a modern point of view. A considerable part of the presentation is devoted to clinical aspects of hypothermia.

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~~USSR~~

MAYSTRAKH, Ye. V., *Priostanovlennaya Zhizn'* (The Suspended Life), Moscow,  
"Znaniye," 1971, 48 pp

Chapter Two. Hypothermia and Retarding Morbid Processes	11
Chapter Three. Hypothermia in the Clinic	15
Chapter Four. Local Refrigeration of the Brain and Heart	20
Chapter Five. How Suppression of These Functions Takes Place During Hypothermia	
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2/2

USSR

M UDC 612.63

MAYSTIKH, M. V., SHARSKAYA, V. D., KARLOV, V. A., and S. M. DODD  
P. I., Chair of General Clinical Pathology, Scientific Institute for  
Advanced Training of Physicians imeni S. N. Kirov

"The Participation of Nuclei of the Anterior Hypothalamus in Temperature Regulation During Cooling and Hypothermia in Anesthetized Rats"

Leningrad, Fisiologicheskiy Zhurnal SSSR imeni I. M. Sechenova,  
No 1, 1970, pp 32-37

**Abstract:** In control mice with displaced electrodes at the anterior hypothalamic brain, no significant changes took place in body temperature, gas exchange, or nature of the circulatory changes due to normal chilling. After destruction of the anterior hypothalamus, indices of gas exchange, skin temperature, and rectal temperature were unchanged, but the rectal temperature decreased markedly. During moderate hypothermia (25° rectal temperature), comparatively weak functional shifts took place in the neurons of the preoptic region (swelling of the cytoplasm and nucleus, vacuolization of the

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USSR

MIRZAEV, M. V., et al., Leningrad, Pirogovskiy Institut SSSR imeni I. M. Sechenov, No 1, 1978, pp 32-37

cytoplasm, hyperchromatism, etc.). The most significant changes were observed in these neurons (especially in the median nucleus) after the rats were allowed to warm themselves up after hypothermia, an indication that the anterior hypothalamus plays a role in temperature homeostasis.

2/2

Acc. Nr: AP0044212

Ref. Code: UR 0239

PRIMARY SOURCE: Fiziologicheskiy Zhurnal, 1970, Vol 56,  
Nr 1, pp 32-37

ON THE ROLE OF ANTERIOR HYPOTHALAMUS NUCLEI  
IN THERMOREGULATION UNDER COOLING AND HYPOTHERMIA IN RATS

Maystrakh, Ye. V.; Zharskaya, V. D.; Karlov, V. A.; Semenov, P. P.

From the Departm. of Clinical Pathology S. M. Kirov Postgraduate Medical Institute,  
Leningrad

Experiments in rats applying the method of electrolytic lesions, histological and histo-chemical study of nuclei of the anterior hypothalamus revealed their participation in the thermoregulating reaction under cooling and hypothermia of un-anesthetized animals. A comparatively weak regulating influence of this area upon the processes maintaining temperature homeostasis and participation of the medial nucleus of the preoptic region into this reaction during the period of hypothermal self-restoration have been established.

REEL/FRAME  
19770698

USSR

UDC 535.511.082.52

VANYURIKHIN, A. I., KUZNETSOV, Yu. A., MAYSTRENKO, V. P., TRON'KO, V. D.

"Recording the Oscillation Plane Angle of Linearly Polarized Infrared Radiation"

Leningrad, Optiko-Mekhanicheskaya Promyshlennost', No 8, August 1970, pp 30-33

Abstract: An efficient, compact Faraday modulator has been developed, with a ferrite-garnet magneto-optical element. On the basis of this modulator has been constructed a highly sensitive polarization unit which permits an angle to be recorded with an accuracy of 0.0002 degree. An analysis is made of the relationship of the sensitivity to the parameters of the optical system and the modulator. 3 figures, 9 bibliographic entries.

1/1

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1/2 030

UNCLASSIFIED

PROCESSING DATE--20NOV70

TITLE--INTERACTION OF AN ELECTRON FLUX WITH SURFACE WAVES IN A  
SEMICONDUCTOR PLASMA -U-  
AUTHOR-(C4)-BROOKIN, A.I., YAKOVENKO, V.H., LEVIN, G.YA., KAYSTRENKO,  
YU.V.

COUNTRY OF INFO--USSR

SOURCE--FIZ. TVERD. TELA 1970, 12(5), 1515-20

DATE PUBLISHED-----70

M

SUBJECT AREA--PHYSICS

TOPIC TAGS--SEMICONDUCTOR PLASMA, SURFACE WAVE, ELECTRON FLUX, ELECTRON  
INTERACTION, SPACE CHARGE, DIELECTRIC CONSTANT, PLASMA RESONANCE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--3004/0377

STEP NUMBER--UR/0181/70/0127000/1515/1520

CIRC ACCESSION NO--APO13166

CLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--2016070

CIRC ACCESSION NO--A00151464

ABSTRACT/EXTRACT--(U) GP-Q- ABSTRACT. EXPTR. OBSERVATION WAS MADE ON THE INTERACTION OF AN ELECTRON FLOW MOVING IN VACUUM WITH THE SURFACE WAVES IN A SOLID STATE PLASMA IN THE MM RANGE. FROM THE EXPTR. DATA AND THE DISPERSION EQUATION, IT WAS ESTABLISHED THAT THE INTERACTION HAS THE CHARACTER OF AMPLIFICATION OF THE WAVES OF SPACE CHARGE IN THE BEAM MOVING CLOSE TO THE SURFACE OF THE MEDIUM WITH A COMPLEX DIELEC. CONST. THIS INTERACTION IS MOST EFFECTIVE CLOSE TO THE PLASMA RESONANCE FREQUENCY IN THE SEMICONDUCTOR (8 TIMES 10<sup>11</sup> SEC).  
FACILITY: INST. RADUFIZ. ELEKTRON., KHARKOV, USSR.

USSR

UDC: 8.74

MAYSTROVSKAYA, L. M., OL'KHOVSKIY, Yu. G., SHAHANOV-KUSHNA-  
RENGO, Yu. P.

"Conditions of Existence of Threshold Scales"

Probl. bioniki. Resp. mezhved. temat. nauch.-tekhn. sb. (Problems of Bionics. Republic Interdepartmental Thematic Scientific and Technical Collection), 1972, vyp. 9, pp 3-9 (from RZh-Kibernetika, No 5, May 73, abstract No 5V850 by A. Model')

Translation: The paper deals with the problem of establishing zones of indistinguishability or thresholds in studying the function of human receptors. The problem is given in the following formulation. To determine the function  $f$ , called the threshold scale, as dependent on

$$z = L(|f(x) - f(y)|),$$

where  $x, y$  are one-dimensional stimuli of different physical nature,  $f$  is a continuous function definable from the results of psychological testing, and  $L$  is a function given by the

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USSR

MAYSTROVSKAYA, L. M. et al., Probl. bioniki. Resp. mezhved. temat. nauch.-tekhn. sb., 1972, vyp. 9, pp 3-9

condition

$$L(t) = \begin{cases} 1 & 0 < t < 1 \\ 0 & 1 \leq t < \infty \end{cases}$$

Functioning of the receptor is given by the expression  $z=F(x, y)$ , where  $x, y \in [0, 1]$ ,  $z$  is equal to 0 or 1. The article proves a number of theorems relative to necessary and sufficient conditions to which the function  $F$  conforms.

2/2

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USSR

MAYSTROVSKAYA, L. M., OL'KHOVSKIY, Yu. G., SHABANOV-KUSHNARENKO, Yu. P.  
"Certain Binary Relationships"

Probl. Bioniki. Resp. Mezhved. Temat. Nauch.-Tekhn. Sb. [Problems of Bionics. Republic Interdepartmental Thematic Scientific and Technical Collection], 1972, No 9, pp 37-40 (Translated from Referativnyy Zhurnal Kibernetika, No 4, 1973, Abstract No 4V730, by the authors).

Translation: The possibility is studied of describing the human receptors using dependences such as  $z = L(\phi_1(x), \phi_2(y))$ , where  $z$  is the binary response of a test subject;  $x, y$  are input signals;  $\phi_1, \phi_2$  are functions taking on values in a certain set  $G$ ;  $L$  is a characteristic function of the diagonals of square  $G \times G$ .

1/1

USSR

UDC: 51

MAYSTROVSKIY, G. D.

"On the State of Equilibrium in One Model of a Closed Economy With Consumption"

Sb. tr. In-t mat. Sib. otd. AN SSSR (Collected Works. Institute of Mathematics, Siberian Department, Academy of Sciences of the USSR), 1971, vyp. 2(19), pp 109-113 (from RZh-Kibernetika, No 4, Apr 72, Abstract No 4V477)

Translation: The paper describes a linear model of a closed economy which accounts for personal consumption. The concept of equilibrium is introduced. Conditions of existence of equilibrium are studied. V. Malinnikov.

1/1

1/2 016

UNCLASSIFIED

PROCESSING DATE--OCT70

TITLE--STUDY OF SURFACE PHENOMENA IN POLYMERS PROPERTIES OF CONDENSED  
OLIGOMER LAYERS -U-

AUTHOR--(03)-FAYNERMAN, A.YE., LIPATOV, YU.S., MAYSTRUK, V.K.

COUNTRY OF INFO--USSR

M

SOURCE--KOLLOIDNYY ZHURNAL, 1970, VOL 32, NR 2, PP 282-287

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--MOLECULAR WEIGHT, POLYMER STRUCTURE, OLIGOMER, ETHYLENE  
GLYCOL, ADIPATE, ISOTHERM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1992/1550

STEP NO--UR/0069/70/032/002/0232/0207

CIRC ACCESSION NO--AP0112544

UNCLASSIFIED

2/2 016

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0112544

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE COMPRESSION ISOTHERMS OF MONOMOLECULAR LAYERS OF OLIGODIETHYLENEGLYCOL ADIPATES OF VARYING MOLECULAR WEIGHT HAVE BEEN STUDIED ON DIFFERENT SUBSTRATES. ON A WATER SUBSTRATE INCREASE OF MOLECULAR WEIGHT INVOLVES CHANGES IN THE PACKING DENSITY AND CHAIN FLEXIBILITY AS WELL AS FORMATION OF MOLECULAR AGGREGATES OF SHORT CHAINS. ON SUBSTRATES WITH GREATER SURFACE ENERGIES THAN THAT OF WATER THESE AGGREGATES BREAK UP AND THE CHAIN FLEXIBILITY IN MONOLAYERS INCREASES. IN THE TEMPERATURE RANGE 15 DIVIDED BY 30DEGREESC THE STRUCTURE OF MONOLAYERS CHANGES INSIGNIFICANTLY.

UNCLASSIFIED

1/2 016

UNCLASSIFIED

PROCESSING DATE--02FCT70

TITLE--USE OF INFRARED SPECTROSCOPY FOR STUDYING THE STATE OF WATER AND  
DETERMINING TRACES OF WATER IN CARBON TETRACHLORIDE -U-  
AUTHOR-(CB)-KARYAKIN, A.V., TEKHNIKE, V.L., MAYSURADZE, G.V.

COUNTRY OF INFO--USSR

SOURCE--ZH. ANAL. KHIM. 1970, 25(2) 315-18

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--IR SPECTROSCOPY, WATER, CARBON TETRACHLORIDE, MOLECULAR  
INTERACTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY FEE/FRAKE--1992/1496

STEP NO--UR/0075/70/025/002/0315/0312

CIRC ACCESSION NO--APIO112490

UNCLASSIFIED

2/2 016

UNCLASSIFIED

PROCESSING DATE--02 OCT 70

CIRC ACCESSION NO--AP0112490

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A SPECTROANAL. METHOD FOR H SUB2 O DETN. IN CCL SUB4 IN THE 4000-3000 CM PRIME NEGATIVE1 RANGE IS DESCRIBE) AND THE STATE OF THE H SUB2 O IN THE COMPD. WAS STUDIED. A HIGHER SENSITIVITY OF SYMMETRIC VIBRATIONS BAND TO THE CHANGES OF THE INTERMOLECULAR INTERACTION HAS CONFIRMED WHICH IS ESSENTIAL IN THE USE OF ONE OR ANOTHER VALENCE VIBRATION BAND FOR ANAL. PURPOSES. ONLY THE BAND OF ASYMMETRIC VIBRATIONS OF H SUB2 O MOLES. CAN BE RECOMMENDED FOR QUANT. DETNS. BECAUSE IT IS NEARLY INSENSITIVE TO THE CHANGES OF INTERMOL. INTERACTION IN THE SOLN. AND THE ABSORBANCE IS DEPENDENT ON H SUB2 O CONCN. THE SENSITIVITY OF H SUB2 O DETSN, IS 1 TIMES 10 PRIME NEGATIVE4 WT. PERCENT. TWO VERY INTENSE BANDS ARE FOUND WITH MAX. AT 3641 AND 3705 CM PRIME NEGATIVE1. THE LATTER BAND BELONGS TO THE ASYMMETRIC VIBRATIONS OF H SUB2 O MOLES. THE ERROR OF THE DETN. OF H SUB2 O ABSORBANCE IN THIS BAND IS 5-10PERCENT.

UNCLASSIFIED

1/2 029

UNCLASSIFIED

PROCESSING DATE--20NOV70

TITLE--ELECTROCHEMICAL POLISHING OF NONFERROUS METALS -U-

AUTHOR--(03)--MAYTAK, G.P., YUDENKOVA, I.N., ORCZO, N.A.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 264,092

REFERENCE--OTKRYTIYA, Izobrety, Prom. Obraztsy, Tovarische Znaki 1970,  
DATE PUBLISHED--10FEB70



SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR, CHEMISTRY, MATERIALS

TOPIC TAGS--CHEMICAL PATENT, ELECTROLYTE, COPPER, BRASS, CORROSION  
INHIBITOR, ETHANOL, AMINO DERIVATIVE, ELECTROCHEMICAL EFFECT,  
ELECTROLYTIC METAL POLISHING/(U)PBS CORROSION INHIBITOR

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3004/133d

STEP NO--UR/0482/70/000/000/0009/0000

CIRC ACCESSION NO--AAC111105

2/2 G29

UNCLASSIFIED

PROCESSING DATE--23NDV70

CIRC ACCESSION NO--AA0132103

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. NONFERROUS METALS, EG., CU AND  
BRASS, ARE ELECTRO POLISHED IN A ELECTROLYTE OF H<sub>2</sub>SUB3 PO<sub>4</sub>SUB4, H  
SUB2 SO<sub>4</sub>SUB4, CORROSION INHIBITOR PB,5, AND TRIETHANOLAMINE (5-12 VOL.  
PERCENT OF THE ACID MXT.) AT 20-40 DEGREES AND 3-75 A-OM PRIMEZ.  
FACILITY: INSTITUT CHIMICHESKUY KHLIMI I NEORGANICHESKUY KHLIMI AM UKRAINSKUY SSR.

1/2 029  
TITLE--CAST IRON -U-

UNCLASSIFIED

PROCESSING DATE--20NOV70

AUTHOR--(03)-YAYUNIKOV, A.V., KALININA, L.T., DENIDOVICH, N.S.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 263,891

REFERENCE--OTKRYTIYA, IZOBRET., PRIM. OBRAZTSY, TUVARNYE ZNAKI 1970,

DATE PUBLISHED--10FEB70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--CAST IRON, CHEMICAL PATENT, CHEMICAL COMPOSITION, CARBON,  
SILICON, MANGANESE, CHromium, COPPER, PHOSPHORUS, SULFUR, IRON, WEAR  
RESISTANT METAL, MAGNESIUM, METAL HARDNESS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--3004/1051

STEP NO--UR/0462/70/000/001/0000/0000

CIRC ACCESSION NO--A0013096

2/2 029

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AA0132096

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A CAST IRON WITH INCREASED  
STRENGTH, HARDNESS, AND WEAR RESISTANCE HAS THE FOLLOWING COMPOSITION: C  
3.1-3.4, Si 4.3-4.8, Mn 4.9-5.3, Cr SMALLER THAN 0.1, Cu 0.5-0.8, Ni  
0.04-0.06, P SMALLER THAN OR EQUAL TO 0.1, S SMALLER THAN OR EQUAL TO  
0.01PERCENT, AND Fe THE REMAINDER. FACILITY: OMEROPOETROVSKY  
ORDENA TRUDOV KRASNUGO ZNAMENI GORNYY INSTITUT IM. JAKTEMA.

Refractory Materials

USSR

UDC 666.764.1.001.5

BOROVKOVA, L. B., LUKIN, YE. S., ~~MALYER, A. A.~~, and POLUBOYARINOV,  
D. N., Moscow Institute of Chemical Technology imeni I. D.  
Mendeleyev

"Changes in Structure and Certain Properties of Industrially  
Made Basic Refractories on Precipitation Hardening"

Moscow, Ogneupory, No 8, 70, pp 27-32

Abstract: Data is presented on changes in the structure of ordinary magnesite (MG-1) and periclase spinel refractories (M-9N, PShS-4) produced at the "Magnezit" plant and on some of their properties following long-term heating at high temperatures. The precipitation hardening was performed at 1350°C for 25, 100, and 300 hours, at 1500°C for 25, 50, and 100 hours and at 1700°C for 25 hours. At 1350 and 1500°C, the heating was done in open air in a furnace equipped with carborundum heaters while at 1700°C -- heating was done in a furnace with graphite heaters in a helium atmosphere. The microstructure of the test material was studied on transparent microsections and the composition of the crystalline phases was analyzed by x-ray phase analysis. Structural patterns

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USSR

BOROVKOVA, L. B., et al., Ogneupory, No 8, 70, pp 27-32

of all three refractories are shown in the original article. The effect of heat treatment on the properties of the refractories was assessed by changes in apparent density, compressive strength, buckling, and creep. Both the strength and refractoriness-under-load showed improvements. The strength of periclase spinel refractories subjected to precipitation hardening at 1350-1700°C decreased, while both buckling and creep deformation were at a level close to that of the initial material.

2/2

- 57 -

UDC 621.372.81

USSR

MAYER, N. A.

"Phenomenological Investigation of Coarsely Periodic Dual-Wave  
Waveguides"

Gor'kiy, Izvestiya VUZov SSSR Radiofizika, Vol 13, No 1, 1970,  
pp 133-140

Abstract: Using the methods of matrix algebra, this paper phenomenologically constructs the frequency characteristics for a dual-wave waveguide as functions of its parameters. Existing methods for computing such waveguides lead to a dispersion equation in which a determinant of infinite order with slowly decreasing elements is equated to zero. The approximate solution of this equation involves some complexity, which makes it desirable to limit the region of the system parameter values. It is to compute these values that the author has developed his method. He begins by considering a periodic system consisting of sections of a regular waveguide alternating with identical cells of arbitrary form, and

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USSR

MAYYER, N. A., Izvestiya VUZov SSSR Radiofizika, Vol 13, No 1,  
1970, pp 133-140

assumes that two waves with constant propagation travel along the waveguide independently of each other and without attenuation. The connection between these partial waves is realized only in the cells. The distance between neighboring cells is so large that waves of the non-propagating type arising in one cell do not enter the next. Each individual cell is described by an eight-terminal system. The expressions obtained in the analysis show that even in systems with uncoupled E and H modes waves with constant complex propagation may arise. The author expresses his gratitude to M. V. Persikov, B. Z. Katsenelenbaum, and V. I. Talanov for their consultation and assistance.

2/2

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*MAYZEL', A.B.*

Urg: 616-036, 662-083, 51, CC  
SOLICITATION OF INFORMATION  
RESCUATION AND OPERATION OF A CLINICAL HOSPITAL

[Article by A.B. Mayzel', A.S. Zabotina, Yu.I. Medvedev, School of  
Resuscitation and Anesthesiology (headed by Doctor A.B. Mayzel'), Kirovograd  
Medical Institute, at the Central Municipal Children Hospital (chief  
physician V.Ya. Pashin), Moscow, Republic of the Soviet Union,  
pp 19-41]

Resuscitation-anesthesiology departments are growing increasingly important in the diagnostic and therapeutic work of large general hospitals. Having been established in the last few years, thanks to the good equipment of laboratories and availability of disease monitoring equipment, they significantly improved the quality of the diagnostic procedures. These departments are regulating and maintaining vital functions of the organism on a high and competent level; they effectively administer intensive care, provide anesthesiological assistance during surgery and diverse manipulations in different departments of the hospital. At the present time it is recognized by all that it is timely and important to create a resuscitation and anesthesiology service in large hospitals.

At the Central Municipal General Hospital of Kirovograd, which has 1,150 beds and is the base for seven clinics and classes of the medical institute, the resuscitation and anesthesiology service was created in accordance with order No 603 of the USSR Minister of Health three years ago. In view of the pavilion-type structure of the hospital with blocks spread over a large territory, a chief resuscitation department with 30 beds was organized in the surgical block where all serious emergency victims were delivered (75% of all those admitted) as well as serious patients from surgical departments (600 beds) of the hospital and an intensive care department with eight beds in the internal medicine block (400 beds). Thus, the resuscitation service had 18 beds in all. The departments were given isolated facilities in the direct vicinity of the decontamination station and surgical block.

Published for the purpose of discussion.

*JPS 57493  
13 July 72*

- 50 -

1/2 026  
TITLE--PREPARATION OF PINIC ACID AND SOME ESTERS BASED ON IT FROM  
TECHNICAL PINENE -U-

AUTHOR--MAYZEL, A.M.

COUNTRY OF INFO--USSR

SOURCE--GIDROLIZ. LESOKHIM. PROM. 1970, 23(11), 15-16

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--LUBRICATING OIL, LUBRICANT ADDITIVE, PLASTICIZER, THERMAL  
STABILITY, ESTERIFICATION, FLUID VISCOSITY, PROCESSED PLANT PRODUCT,  
WOOD CHEMICAL PRODUCT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
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UNCLASSIFIED

2/2 026

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0104444

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE OXIDATION OF ALPHA PINENE WITH KMNO SUB4 AT 0-5DEGREES IN THE PRESENCE OF NH SUB4 CL GAVE 60-5PERCENT PINONIC ACID, WHICH WAS OXIDIZED WITH NAOBR IN THE PRESENCE OF NA SUB2 CO SUB3 TO PINITIC ACID (I) IN 85PERCENT YIELD. THE ESTERIFICATION OF I AT 50 MM AND 120-50DEGREES IN THE PRESENCE OF CONCD. H SUB2 SO SUB4 GAVE DIHEXYL PINATE, N PRIME20 SUBD 1.4510, VISCOSITY 19.4 CST AT 20DEGREES, AND DIDEDECYL PINATE, N PRIME20 SUBD 1.4570, VISCOSITY 42.5 CST AT 20DEGREES. THE ESTERS ARE THERMALLY STABLE TO 200DEGREES AND COULD BE USED AS LUBRICATING OIL ADDITIVES AND PLASTICIZERS.

UNCLASSIFIED

## Concrete

USSR

UDC 666.972.678

KAMENETSKIY, S. P., Candidate of Technical Sciences, MAYZHL', I. L., Candidate of Technical Sciences, and KALININ, V. I., Engineer, All-Union Scientific Research and Planning Institute Teploproyekt

"Heat-Insulating Plastic Concrete Based on Polyurethane Foam and Mineral Aggregates"

Moscow, Stroitel'nyye Materialy, No 7(223), Jul 73, pp 14-15

**Abstract:** The All-Union Scientific Research and Planning Institute Teploproyekt produces a heat-insulating plastic concrete based on PPU-3's polyurethane foam and ashy gravel on an foam glass fragments. The concrete has volumetric mass of 600 to 160 kg/m<sup>3</sup>. The ashy gravel is produced by the Kashirsk Reinforced Concrete Products Plant No 3; the foam glass, by the Gomel' Glass Factory; and the PPU-3's polyurethane, by the All-Union Scientific Research Institute of Synthetic Resins in Vladimir. It is demonstrated that polyurethane foam of various volumetric mass and various strength indices can be produced by changing the content of the foaming water agent. The materials possess low volumetric mass, sufficient strength, insignificant flammability, and good heat and moisture protective properties. Four figures, and one table.

1/1

USSR

## Organophosphorus Compounds

UDC: 577.153

BRESTKIN, A. P., BRIK, I. L., VOLKOVA, R. I., MAYZEL, YE. B. and ROZENGARD, YE. V.,  
Institute of Evolutionary Physiology and Biochemistry imeni I. M. Sechenov, Academy  
of Sciences USSR, Leningrad

"Effects of the Ionic Strength and Organic Solvents on the Interaction of Cholinesterases with Substrates and Organophosphorus Inhibitors"

Moscow, Biokhimiya, Vol 35, No 2, Mar-Apr 70, pp 382-393

Abstract: The effect of various concentrations of KC1 on the reactivity of acetylcholinesterase (A) from bovine erythrocytes and butyrylcholinesterase (B) from equine blood serum with respect to two substrates, acetylcholine and phenyl acetate, and two organophosphorus inhibitors,  $C_2H_5(CH_3)P(O)SC_2H_4SC_2H_5$  (Gd-7) and  $C_2H_5O(CH_3)P(O)SC_2H_4S^+(CH_3)C_2H_5\cdot CH_3^-$  (Gd-42), was studied. With increasing concentrations of KC1, the reactivity of A and B decreased towards the cationic substrate acetylcholine and Gd-42 because of a decrease in the Coulomb interaction with the anionic center of the enzymes, whereas it increased towards the non-cationic substrate PhOAc and Gd-7 because of an increase in hydrophobic interaction with the hydrophobic sections of the active surface of the enzymes. In the acidic

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USSR

BRESTKIN, A. P., et al, Biokhimiya, Vol 35, No 2, Mar-Apr 70, pp 382-393

pH range, in which ionization of the anionic center was depressed, the inhibiting effect of KC1 on the rate of the reaction of A and B with Gd-42 was less pronounced. Changes in the effect of the ionic strength at pH 5.5-8.2 on the inhibiting action of Gd-42 towards A and B made it possible to estimate the pK of the anionic center of A and B at 6.1 and 6.8, respectively. The effects of  $C_2H_5OH$ ,  $C_3H_7OH$ , iso- $C_3H_7OH$ ,  $C_4H_9OH$ , iso- $C_4H_9OH$ , sec- $C_4H_9OH$ , and tert- $C_4H_9OH$  on the anticholinesterase activity of organophosphorus inhibitors  $C_2H_5O(CH_3)P(O)S(CH_2)_nC(CH_3)_3$  (series LG) and  $C_2H_{2n+1}O(CH_3)P(O)SC_4H_9$  (series GA) were studied in experiments with B. The alcohols reduced the anticholinesterase activity of the organophosphorus compounds by worsening their hydrophobic interaction with the non-polar sections of B and also by altering the structure of these sections. The hydrophobic section in the region of the esterase center of B was more resistant to the action of alcohols than that in the region of the anionic center. The maximum effect in reducing the activity in the series LG was produced by iso- $C_4H_9OH$ , to which hydrophobic regions in the region of the anionic center are particularly sensitive, while the maximum

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USSR

BRESTKIN, A. P., et al, Biokhimiya, Vol 35, No 2, Mar-Apr 70, pp 382-393  
effect in reducing activity in the series GA was exerted by tert-C<sub>4</sub>H<sub>9</sub>OH, which  
affects primarily the region of the esterase center.

3/3

**Superalloys**

USSR

UDC 669.24

GRAN', N. I., ONISHCHIN, B. P., MAYZEL', Ye. I.

"Electric Smelting of Oxidized Nickel Ores"

Elektroplavka Okisleniykh Nikelevykh Rud [English version above], Metallurgiya Press, 1971, 248 pages.

Translation of Annotation: Electric smelting of oxidized nickel ores to ferronickel, low-sulfur alloy and matte is described. A classification of ores and methods of preparation of ores for smelting is presented. The peculiarities of electric smelting of ores are studied. Data are presented on the influence of a number of important factors on the indicators of the process. Information is reported on the physical and thermodynamic properties of ferronickel and slag.

The book is designed for engineers and technicians at metallurgical plants, planning and scientific research institutes, teachers and students at metallurgical and chemical-technological universities and technical schools. 60 Figures; 92 Tables; 145 Biblio. Refs.

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USSR

UDC 669.24

GRAN', N. I., ONISHCHIN, B. P., MAYZEL', Ye. I., Elektroplavka Okisleniykh  
Nikelevykh Rud, Metallurgiya Press, 1971, 248 pages.

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UDC 669.24

GRAN', N. I., ONISHCHIN, B. P., MAYZEL', Ye. I., Elektroplavka Okisleniykh  
Nikelevykh Rud, Metallurgiya Press, 1971, 248 pages.

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USSR

UDC 669.24

GRAN', N. I., ONISHCHIN, B. P., MAYZEL', Ye. I., Elektroplavka Okisleniykh  
 Nikelevykh Rud, Metallurgiya Press, 1971, 248 pages.

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USSR

UDC 669.24

GRAN', N. I., ONISHCHIN, B. P., MAYZEL', Ye. I., Elektroplavka Okisleniykh  
Nikel'evykh Rud, Metallurgiya Press, 1971, 248 pages

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1/2 007 UNCLASSIFIED PROCESSING DATE--30OCT70  
TITLE--DRYING GRANULATED FERTILIZERS IN ROTARY DRIES -U-

AUTHOR-(04)-MAYZEL, YU.A., GOLUBEVA, A.N., YEROFEYEVA, N.V., BEYZERMAN,  
L.R.  
COUNTRY OF INFO-USSR

SOURCE-KHIM. PRCM. (MOSCOW) 1970, 46(2), 117-21

DATE PUBLISHED---70

SUBJECT AREAS—AGRICULTURE

TOPIC TAGS—CHEMICAL DRYING, PHOSPHORUS FERTILIZER, PARTICLE SIZE

CONTROL MARKING—NO RESTRICTIONS

DOCUMENT CLASS—UNCLASSIFIED  
PROXY REEL/FRAME--2000/0175

STEP NO--UR/0064/70/046/002/0117/0121

CIRC ACCESSION NO--APO123946

UNCLASSIFIED

2/2 007

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0123946

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN DRYING OF GRANULATED AMMONIATED SUPERPHOSPHATE FERTILIZERS IN ROTARY DRUM DRIERS, THE PARTICLE SIZE OF THE GRANULES CAN EITHER DECREASE OR INCREASE (DEPENDING ON THE EXACT NATURE OF THE FERTILIZER, THE RAW MATERIALS USED, THE INITIAL GRAIN SIZE, ETC.) BUT IN BOTH CASES THE RELATION BETWEEN THE F SUB1-F SUB2 RATIO (WHERE F SUB1 AND F SUB2 ARE THE INITIAL FAND FINAL EQUIV. SURFACE AREAS OF THE GRANULES) AND THE THERMAL LOAD DURING DRYING IS SATISFACTORILY DESCRIBED BY A PARABOLIC (DESCENDING OR ASCENDING) CURVE. A METHOD FOR THE AUTOMATIC CONTROL OF THE DRYING PROCESS ON THE BASIS OF PARTICLE SIZE IS DESCRIBED.

UNCLASSIFIED

1/2 023  
TITLE--LATEX ARTICLES -U-

UNCLASSIFIED

PROCESSING DATE--20 NOV 70

AUTHOR-(C2)-MAYZELIS, B.A., GRUBMAN, YU.V.

COUNTRY OF INFO--USSR

SOURCE--USSR. 265,433  
REFERENCE--UTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOWARNYE ZNAKI 1970,  
DATE PUBLISHED--CSMAR70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--LATEX, CHEMICAL PATENT, EPOXY RESIN, ELECTRIC CURRENT,  
INSULATING MATERIAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--3002/1427

STEP NO--UR/04B/EJ70/000/000/0000/0000

CIRC ACCESSION NO--AA0128626

UNCLASSIFIED

2/2 023

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AA0126626

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. LATEX ARTICLES ARE PREPD. BY PLUNGING THE MOLDS INTO A FIXATIVE AND THE LATEX AND THEN TURNING ON A CONST. ELEC. CURRENT. AN INSULATING LAYER, E.G. AN EPOXY RESIN, IS APPLIED ON THE SURFACE OF THE CURRENT CONDUCTING MOLD IN PLACES WHERE THE MOLD IS NECESSARILY THIN. FACILITY: SCIENTIFIC RESEARCH INSTITUTE OF RUBBER AND LATEX ARTICLES.

UNCLASSIFIED

MAYZELIS, M.R.

*Electrometeorology*

JPRS 25343  
3 March 1972

HYGIENIC AND PHYSIOLOGICAL SIGNIFICANCE OF AIR  
IONIZATION STUDIES IN PRODUCTION CONDITIONS

Article by M. R. Mayzelis,迂印, *Zhurnal Vsesoyuznogo Nauchno-Issledovatel'skogo Instituta po Elektrometeorologii i Radiotekhnike*, Moscow, Vol. No. 1, 1971, pp. 77-82

The concentration of electrical charges in the air is one of the characteristics of electrometeorology in general and of a microclimate. In particular, the hygienic aspect of the study of air ionization concerns the evaluation of the significance of the ionic regime as a factor in the change of the environment affecting humans. In this, the recognition of the optimum regime for the vital activity of healthy persons at work and at rest is important.

Our investigations involved a study of the question of the hygienic significance of a systematic introduction of a small number of electrical charges in the air environment of work locations having an ionic composition analogous to that of urban conditions. The investigation included 3 aspects: the study of the effect of artificial air ionization on the air environments on workers' morbidity and on the functional state of persons during the work day.

We generated air ions with negative polarity by means of corona discharges. Rectified direct current voltage (15 kv) was fed to thin wires with needle sharp points. The wires were placed horizontally in parallel rows over the entire room.

I. I. Vlasil'ev. The Effect of Air Ions on the Organism. Leningrad, 1960; A. A. Nizh. Air Ionization and Its Hygienic Significance. Moscow, 1963.

The electrostatic field at the level of a seated person was near to the order of vibrations of the vertical component of the natural electric field of the Earth.

Polarity Ionometer. The polarity of the air was measured by a device of operation of 2 to 2.5 months with a daily 30 minute periods of operation of the air ionizer. In the beginning of the working day and after the lunch break. The room temperature was 19-23 degrees. The relative humidity was 40-50 percent. The air was not contaminated by chemically harmful substances (the industrial process did not produce dust). The experimental area contained more than 200 persons and a control group was placed in another area.

#### Investigations of the Air

After switching on the ionizer, air ions of negative polarity accumulated very quickly. After switching it off, the number of light air ions fell to ordinary levels within 10-15 minutes and the level of average and heavy air ions dropped within 40-50 minutes.

Concentration of Air Ions at the Respiration Level  
(170 cm from the ionizer) in cm<sup>-3</sup>

(1) Ionization Suspended	(2) Resumes	(3) Concentration of Air Ions
300 (6) No special restrictions imposed	140 30-140-160-180	2500 3100
—	—	30-140-160-180

#### KEY:

1. Light Air Ions
2. Average and Heavy Air Ions
3. Conditions of Measurement
4. Without Ionization
5. At the time of effect of the ionizer

1. M.M. Shuster. Materials from the Scientific Conference on problems of Air Ionization in the Hygiene of Labor. Leningrad, 1963.

USSR

UDC 577.4

MEYERSON, F. Z., MALKIN, V. B., ANIKHNUROVA, L. A., LOGINOVA, YE. V., and  
MAYZELIS, M. YA., Institute of Normal and Pathological Physiology, Academy  
of Medical Sciences USSR

"Effect of RNA Synthesis Inhibitor on the Development of Adaptation to High-  
Altitude Hypoxia"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Biologicheskaya, No 3, May/Jun  
72, pp 405-412

**Abstract:** The importance of increased nucleic acid and protein production  
in adaptation to high-altitude hypoxia was evaluated by administering  
actinomycin 2703 -- an RNA synthesis inhibitor -- to rats raised in 500  
meter increments to 7,000 meters over a 25-day period in an altitude chamber  
(6 hrs/day exposure). Experiment variations included rats unadapted to  
hypoxia (control) (1), adapted over 25 days (2), unadapted and given actino-  
mycin for 5 days (3), and adapted over 25 days and given actinomycin from  
the 20-25th days (4). Weight gain rate decreased in group 2 as compared  
to controls, weight decreased 7% in group 3, while weight decreased 16% in  
group 4 and 63% of the animals died during acute hypoxia generated by raising  
them to 11,000 meters at 80-100 meters/sec. Protein synthesis in the  
1/2

USSR

MEYERSON, F. Z., et al., Izvestiya Akademii Nauk SSSR, Seriya Biologicheskaya, No 3, May/Jun 72, pp 405-412

heart and cerebral cortex increased in group 2, remained normal in group 3, but decreased in group 4, indicating that actinomycin is inhibitory only during adaptation to hypoxia. While  $O_2$  consumption decreased 35% in group 1 at 7,000 meters, by the 25th day of adaptation the decrease diminished to 10% in group 2. Actinomycin produced no significant changes in group 3 as compared to controls. In group 4 however, actinomycin caused  $O_2$  consumption to decrease 20-25%. Moreover the consumption decreased 24% at sea level for this group, indicating that something other than the  $O_2$  transport system had been affected, since  $O_2$  is readily available and there is no stress on the transport system. This idea is further supported by the fact that while the breathing rate decreased over the adaptation period, actinomycin caused it to rise again. Nor did the drug cause abnormal changes in erythrocyte and hemoglobin counts. Finally, animals given actinomycin and exposed to acute hypoxia died not during exposure but on the following day in an abundance of  $O_2$ . Thus it is suggested that actinomycin disrupts  $O_2$  utilization ... i.e., mitochondrial function, rather than  $O_2$  transport. The increased protein and nucleic acid production detected is a necessary part of adaptation to hypoxia, and it is inhibited by suppression of mitochondrial activity.

2/2

1/2 026

UNCLASSIFIED

PROCESSING DATE--23OCT70

TITLE--EXPERIMENTAL PROPHYLAXIS OF ACUTE CARDIAC INCOMPETENCE BY  
PRELIMINARY TRAINING OF ANIMALS TO HYPOXIA OF HIGH ALTITUDE -U-  
AUTHOR-(05)-MEYERSON, F.Z., MAYZELIS, M.YA., MARKOVSKAYA, S.I., GOLUBEVA,  
L.O., NOVIKOVA, N.A.

COUNTRY OF INFO--USSR

M

SOURCE--PATOLOGICHESKAYA FIZIOLOGIYA I EKSPERIMENTAL'NAYA TERAPEVYA, 1970,  
VOL 14, NR 2, PP 49-54  
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--HEART DISEASE, ALTITUDE CHAMBER, BIOMEDICAL CHAMBER,  
VENTRICULAR HYPERTROPHY, MYOCARDIUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1988/0144

STEP NO--UR/0396/70/014/002/0049/0054

CIRC ACCESSION NO--AP0105230

UNCLASSIFIED

2/2 026

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0105230

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. WISTAR RATS WERE TRAINED FOR 40 DAYS IN A BAROCHAMBER, 6 HOURS DAILY AT AN "ALTITUDE" OF SEVEN THOUSAND METERS. SUCH TRAINING LED TO ACTIVATION OF THE SYNTHESIS OF NUCLEIC ACIDS AND PROTEIN IN THE MYOCARDIUM OF THE LEFT, AND, PARTICULARLY, OF THE RIGHT CARDIAC VENTRICLE (WHICH SERVED AS THE BASIS OF HYPERSTROPHY), AND TO INCREASE OF THE MAXIMAL POWER OF CONTRACTION OF THE VENTRICLES (OF THE LEFT, BY 18 PER CENT, AND OF THE RIGHT, BY 33 PER CENT). THIS TRAINING WAS CARRIED OUT FOR THE PURPOSE OF PREVENTION OF ACUTE CARDIAC INSUFFICIENCY PRODUCED BY OVERLOADING IN CORACTATION OF AORTA. PRELIMINARY TRAINING TO HIGH ALTITUDE HYPOXIA PROVED TO PREVENT OR TO REDUCE DISTURBANCES OF METABOLISM AND MYOCARDIAL FUNCTION WHICH USUALLY FOLLOWED INDUCTION OF AN EXPERIMENTAL DEFECT, AND CONSTITUTED THE BASIS OF CARDIAC INCOMPETENCE.      FACILITY: LABORATORIYA EKSPERIMENTAL'NOY KARDIOLOGII INSTITUTA NORMAL'NYY I PATOLOGICHESKOY FIZIOLOGII AMN SSSR, MOSKVA.

UNCLASSIFIED

Acc. Nr.: AP0031639

Ref. Code: UR 0219

PRIMARY SOURCE: Byulleten' Ekperimental'noy Biologii i  
Meditiny, 1970, Vol 69, Nr 1, pp 28-30

THE EFFECT OF TRAINING FOR ALTITUDINAL HYPOXIA ON THE INTENSITY  
OF PROTEIN SYNTHESIS IN THE BRAIN AND RESISTANCE OF ANIMALS

TO SPASTIC FACTORS

Mayzelis, M.Ya.; Meverson, F.Z.; Leykina, Ye.M.

Popko, N.A.; Gvirtsman, L.Ye.  
Institute of Normal and Pathological Physiology of the AMS of the USSR and Moscow  
Research Institute of Psychiatry

In tests staged on rats subject to study were the intensity of Methionine S<sup>35</sup> incorporation in the cerebral proteins, the nucleic acids content in the brain cortex and also the reaction of the animals to the effect produced by spastic factors. It is shown that during intermittent training for altitudinal hypoxia the protein synthesis is activated, especially in the hemispheric cortex, the RNA level in the cortex rises and the resistance of the animals to the effect of spastic agents (pentylene tetrazol, audiogenic stimuli) increases.

2 MK

REEL/FRAME

10001766

USSR

UDC 612.82.015.348-06:612.232

MAYZELIS, M. YA., MEYERSON, F. Z., LEYKINA, YE. M., POPKO, N. A., and GVIRTSMAN, L. YE., Laboratory of Experimental Cardiology, Institute of Normal and Pathological Physiology, Academy of Medical Sciences USSR, and Radiology Laboratory Moscow Scientific Research Institute of Psychiatry, Ministry of Health RSFSR

"The Effect of Training for Altitude Hypoxia on the Intensity of Protein Synthesis in the Brain and Resistance to Convulsants"

Moscow, Byulleten' Eksperimental'noy Biologii i Meditsiny, No 1, 1970, pp 28-30

Abstract: In the late stages of training, when the resistance of the experimental rats to hypoxia was high, protein synthesis increased steadily in the medulla, hypothalamus, and cortex. After the cessation of training, it gradually decreased. The increased protein synthesis in the cortex was paralleled by a rise in RNA concentration. At the same time, the animals exhibited resistance to convulsive doses of pentylenetetrazol and audiogenic stimulation.

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USSR

UDC 621.396.969.18

MAYZEL'S, Ye. N. (Deceased) and TORGOVANOV, V. A.

"Measurement of Dispersion Characteristics of Radar Targets"

Izmereniye kharakteristik rasseyaniya radiolokatsionnykh tsalej, Moscow, Izd-vo "Sovetskoye radio," 1972, edited by M. A. Kolosov, 232 pp.

Translation: Most of the dispersion characteristics of complex radar targets are measured by polygons or in echo-less chambers.

This book proposes measurement methods and equipment for determining the characteristics of radar targets, and presents various forms of modeling with uhf, coherent light waves, and ultrasonic radiation. A great deal of attention is given to the analysis of measurement errors. New methods of measurement are examined, including equipment with broad-band signals, open resonators, and the like.

The book is designed for electronics engineers, scientific personnel, electron physicists, and VUZ students specializing in radio wave propagation, radar design, and radio wave measurement.

Twelve tables, 164 illustrations, 75-title bibliography.  
1/6

USSR

MAYZEL'S, Ye. N. and TORGOVANOV, V. A., Izmerenije kharakteristik rasseyaniya radiolokatsionnykh tseley, Moscow, Izd-vo "Sovetskoye radio," 1972, 232 pp.

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- 1.2. Physical phenomena in radio wave interpretation
- 1.3. Effective dispersion field (EDF) and the EDF diagram
- 1.4. Dispersion matrix
- 1.5. Dispersion diagram
- 1.6. Application of the dispersion diagram
- 1.7. Phase measurement

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Chapter 2. Use of Modeling in Wave Dispersion Measurement

- 2.1. General remarks
- 2.2. Electrodynanic modeling

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USSR

MAYZEL'S, Ye. N. and TORGOVANOV, V. A., Izmerenije kharakteristik rasseyaniya radiolokatsionnykh tseley, Moscow, Izd-vo "Sovetskoye radio," 1972, 232 pp.

2.3. Modeling with waves in the visible range

Measuring average EDF values using incoherent oscillations

Modeling with coherent radiation sources in the visible range (lasers)

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Chapter 3. Methods of Forming Quasi-Planar Fields

3.1. Types of field used in measurements

3.2. Investigating fields used in measuring equipment

EDF diagram of a film with a wave of constant phase and periodically varying amplitude incident on it

EDF diagram of a film with a wave of constant amplitude and periodically varying phase incident on it

A method of expanding the EDF diagram into "moments"

EDF diagram of a film with a wave of random phase distribution incident on it

3.3. Measuring the EDF diagram in the far zone of a radiating antenna

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MAYZEL'S, Ye. N. and TORGOVANOV, V. A., Izmereniye kharakteristik rasseyaniya radiolokatsionnykh tseley, Moscow, Izd-vo "Sovetskoye radio," 1972, 232 pp.

- Measurement error of a unidimensional diffuser
- Measurement error of two-dimensional (planar) diffusers as a function of distance
- 3.4. Measuring the EDF diagram in the intermediate antenna zone
- 3.5. Measuring the EDF diagram with collimating devices
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  - Optimal collimator dimensions for specified manufacturing accuracy
- 3.6. Measuring field amplitudes and phases, and collimator power supplies
  - Investigating the field of incident waves
  - Investigating the field of dispersed waves using a passive reflecting probe

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Chapter 4. Methods for Suppressing Parasitic Dispersion, and Echo-less Chambers

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USSR

MAYZEL'S, Ye. N. and TORGOVANOV, V. A., Izmereniye kharakteristik rasseyaniya radiolokatsionnykh tseley, Moscow, Izd-vo "Sovetskoye radio," 1972, 232 pp.

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- 4.2. Radio-absorbing materials for echo-less chambers
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- 4.6. References for measured objects

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MAYZEL'S, Ye. N. and TORGOVANOV, V. A., Izmereniye kharakteristik rasseyaniya radiolokatsionnykh tseley, Moscow, Izd-vo "Sovetskoye radio," 1972, 232 pp

- 5.5. Measuring device with the Doppler effect
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USSR

UDC 62-50

MAYZENBERG, T. L., Moscow

"Certain Problems of Optimal Control Under Random Disturbances"

Moscow, Avtomatika i Telemekhanika, No 8, Aug 72, pp 42-50

**Abstract:** Problems of optimal control of dynamic systems in the presence of random disturbances are discussed, including optimal control of stochastic systems in which random perturbations of both a continuous and stepwise character are present. It is noted that previously either processes of the white noise type or purely stepwise processes were considered as the basically perturbing factors in such problems but the disturbances of a more general type such as Markov random processes containing both continuous and stepwise components, particular cases of which are white noise, Poisson processes, stable processes, etc. are of considerable theoretical and practical interest for automatic control systems. Such processes serve as descriptions of unknown disturbing factors acting on the system, unknown parameters of the system, and fluctuating phenomena in the control system. Stipulating that such processes do not always have second-order moments, the authors shows in this article that in this case no control acting in an additive way can ensure the existence of second moments in such systems.

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USSR

MAYZENBERG, T. L., Avtomatika i Telemekhanika, No 8, Aug 72, pp 42-50

The problem of control of a linear system with a quadratic quality criterion thus has sense only in the presence of noises with finite second moments. A Bellman equation for the optimal value of the quality criterion is compiled for this problem in a finite time interval, and a solution is found which is a second-order polynomial generally containing linear terms. Also discussed are problems of the control of linear stochastic equations defining processes with finite dispersions and problems of the control of certain nonlinear systems. A problem is also studied in which the control ends at the time of the first output of the process from a given region. It is shown that such problems reduce to a study of boundary value problems for certain integro-differential operators associated with the processes.

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USSR

UDC: 534.1:621-752

GURETSKIY, V.V. and MAZIN, L.S., Leningrad

"On Maximum Possible Vibration Isolation Taking Into Account The Mass of Vibration Isolator"

Moscow, Mashinovedeniye, No 1, Jan-Feb 73, pp 7-13

**Abstract:** Among the latest vibration isolators there are many whose mass has an important effect and cannot be neglected. The mathematical model of the system being analyzed consists of an object to be isolated, supported on a fixed base by a vibration isolator. The object is not a solid body, it may consist of an upper mass  $m$  and a lower mass  $M$  connected by a spring of scale  $C$ . The vibration is excited by a harmonic motion of the base at the frequency  $\omega$ . The minimum possible amplitude of vibration at a given section of the object is given by formula (23). The parameters of this formula can be determined experimentally by mounting the object on a vibration stand without vibration isolators. The parameters of the optimum vibration isolator are given by equation (25) and (26). In the case of massless vibration isolator the frequency  $\omega$  should be in the range given by  $0 < mc^{-1}\omega^2 < 1$ .

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USSR

UDC 51

MAYZLIN, I. YE., OSOKIN, V. V., KARTSEV, V. S.

"Optimal Planning of Multinomenclature Production"

V sb. Mat. vopr. upr. proiz-vom (Mathematical Problems of Production Control-- collection of works), Moscow, vyp. 3, 1971, pp 4-14 (from RZh-Kibernetika, No 12, Dec 72, Abstract No 12V398)

No abstract

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USSR

MAYZLIN, I. Ye., TROSHIN, L. I.

"Solution of the Problem of Optimal Planning of Development of a Production System"

Mat. Vopr. Upr. Proiz-vom [Mathematics Problems of Production Control], No 3, Moscow, 1971, pp 40-45 (Translated from Referativnyy Zhurnal, Kibernetika, No 1, 1973, Abstract No 1 V709 by Yu. Finkel'shteyn).

Translation: The problem of composition of an optimal plan for reconstruction of production objects is solved, leading to the following integer linear model with Boolean variables:

$$\sum_{k=1}^n v_k \delta_k \rightarrow \min, \quad (1)$$

$$\sum_{k=1}^n c_k \delta_k \leq C, \quad (2)$$

$$\sum u_k \delta_k \leq U, \quad (3)$$

$$0 \leq \delta_k \leq 1, \quad k=1, 2, \dots, n, \quad (4)$$

$\delta_k$  is an integer,  $k=1, 2, \dots, n$ . (5)

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MAYZLIN, I. Ye., TROSHIN, L. I., Mat. Vopr. Upr. Proiz-vom, No 3, Moscow, 1971, pp 40-45.

Here all  $v_k > 0$ ,  $c_k \geq 0$ ,  $u_k \geq 0$ ,  $C > 0$ ,  $U > 0$ . The authors further write, "at the present time there is no effective method of deterministic search for the solution to this problem for large values of  $n$ . The Gomori algorithm leads to large computational volume for  $n$  on the order of 20 to 30," and suggest a heuristic procedure for the solution of problem (1)-(5). Without arguing the effectiveness of methods of discrete programming with the authors in general and of the Gomori algorithm in particular, I should still note that problem (1)-(5) is the knapsack problem with two limitations. The heuristic approach would hardly be the most effective approach to this problem, since it has long been known that the method of dynamic programming is applicable here.

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USSR

UDC 51

KARTSEV, V. S., MAYZLIN, I. YE., OSOKIN, V. V.

"Compiling the Optimal Steel Output Schedule in an Open-Hearth Shop"

V sb. Mat. vopr. upr. proiz-vom (Mathematical Problems of Production Control-- collection of works), Moscow, vyp. 3, 1971, pp 87-99 (from RZh-Kibernetika, No 12, Dec 72, Abstract No 12V403)

No abstract

1/1

1/2 013 UNCLASSIFIED PROCESSING DATE--11DEC70  
TITLE--PARTICIPATION OF INHIBITOR RADICALS IN CHAIN PROPAGATION DURING  
ETHYLBENZENE OXIDATION IN THE PRESENCE OF N-PHENYL BETA-NAPHTHYLAMINE  
AUTHOR--(04)-KARPUKHINA, G.V., MAYUS, Z.K., MESKINA, M.YA., EMANUEL, N.N.

COUNTRY OF INFO--USSR

SOURCE--ZP. FIZ. KEM. 1970, 44(6), 1377-82

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TOPIC TAGS--ETHYLBENZENE, OXIDATION, AROMATIC AMINE, ALKYLPHENOL

CONTROL MARKING--NO RESTRICTIONS

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PROCESSING DATE--11DEC70

CIRC ACCESSION NO--AP0140337

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE INHIBITORY ACTIVITY OF N-PHENYL BETA-NAPHTHYLAMINE (I) IN THE OXIDN. OF PHET AT CONCLES DECREASED WITH INCREASING I CONCN. THE CONCN. OF PEROXY RADICALS IN THE REACTION MIXT. BECAME GREATER THAN THE VALUE CALCD. FROM THE RATES OF RADICAL INITIATION, AND OF REACTION OF PEROXY RADICALS WITH INHIBITOR, OR FROM THE CONCN. OF THE INHIBITOR. THIS WAS DUE TO THE GENERATION OF ADDNL. PEROXY RADICALS BY THE REACTION OF PHET WITH RADICALS DERIVED FROM I. UPON INTRODUCTION OF 2,6-DI-TERT-BUTYLPHENOL, WHICH REACTED WITH THE AMINE RADICALS, THE RATE OF THE SIDE REACTION DECREASED, AND THE CONCN. OF PEROXY RADICALS APPROACHED THE CALCD. VALUE.

FACILITY: INST. KHM. FIZ., MOSCOW, USSR.

REF ID: A67120704

Titanium

USSR

UDC 669.71'295.053.4.094(083.8)

MAZALETSKIY, G. D., KATS, M. SH., ZHURAVLEV, V. M., RYABIN, V. A., BAYTAKOVA,  
R. S., GOLODOV, S. M.

"Procedure for Processing Slag from Aluminothermal Production of Ferrotitanium"

USSR Author's Certificate No 276122, Filed 27 Mar 65, Published 15 Oct 70  
(from RZh-Metallurgiya, No 4, Apr 71, Abstract No 4G167P)

Translation: A procedure is proposed for obtaining Ti concentrate and  $\text{Al}_2\text{O}_3$  from slag obtained during aluminothermal production of Fe-Ti. The procedure includes sintering of the crushed slag with soda at 1,130-1,150°. The cake is processed in a sodium solution which converts the oxides to solution from which  $\text{Al}(\text{OH})_3$  is precipitated, and the Ti oxides remain in the slag.

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1/2 015 UNCLASSIFIED PROCESSING DATE--13NOV70  
TITLE--KINETICS OF THE VACUUM ANNEALING OF PRODUCTS OF CARBONIFEROUS  
FERROCHROME OXIDATION -U-  
AUTHOR-(03)-MAZALETSKIY, G.D., PECHENKIN, V.S., BAYTAKOVA, R.S.  
COUNTRY OF INFO--USSR *M*  
SOURCE--ZH. PRIKL. KHM. (LENINGRAD) 1970, 43(3), 670-2  
DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--OXIDATION, FERROCHROMIUM, METAL REDUCTION, VACUUM ANNEALING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1999/1065

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2/2 015 UNCLASSIFIED PROCESSING DATE--13NOV70  
CIRC ACCESSION NO--AP0123058  
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE MATERIAL SUBJECTED TO THE VACUUM ANNEALING CONTAINED CR SUB2 O SUB3 57.2, FeO 4.55, Cr 17, Fe 14.1, AND C 1.01PERCENT. THE ANNEALING PROCESS CAN BE DESCRIBED BY THE TOPOCHEM. VOLINOGOROV-EROFEEV EQUATIONS. THE CURVILINEAR ARRHENIUS PLOT INDICATES 2 PARALLEL PROCESSES. THE REDN. OF FeO IS DIFFUSION CONTROLLED. FACILITY: AKTYUBINSK. ZAVOD FERROSPLAVOV, AKTYUBINSK, USSR.

UNCLASSIFIED

USSR

UDC 541.49

NIKOLAYEV, A. V., YAKOLEVA, N. I., GAL'TSOVA, E. A., and NAZALOV, L. N.

"Correlation of the Extraction Properties of Organophosphorus Compounds with A Charge At the Phosphorus Atom"

Novosibirsk, Izv. Sibirsogo Otdeleniya Akademii Nauk SSSR,  
Ser. Khimicheskikh Nauk, No 6, 1972, pp 118-119

**Abstract:** Organophosphorus compounds are used extensively for extraction of uranyl nitrate, plutonium and americium. The experimental investigation was conducted on the efficiency of extraction and distribution coefficients of organophosphorus compounds as a function of charge on the phosphorus atom. Fitting the newly obtained data, as well as some of the data reported in literature by the method of least squares a linear relationship is found between the logarithm of the effective extraction constants and the charge on the phosphorus atom. A test of the equation shows that for all cases the correlation coefficient is 0.99.

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